WELCOME!

CASCADIA
RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

Communications Academy
April 12, 2015
Mike Chaplin NC7Q
Monte Simpson W7MLS

WHAT WE WILL COVER IN THIS PRESENTATION

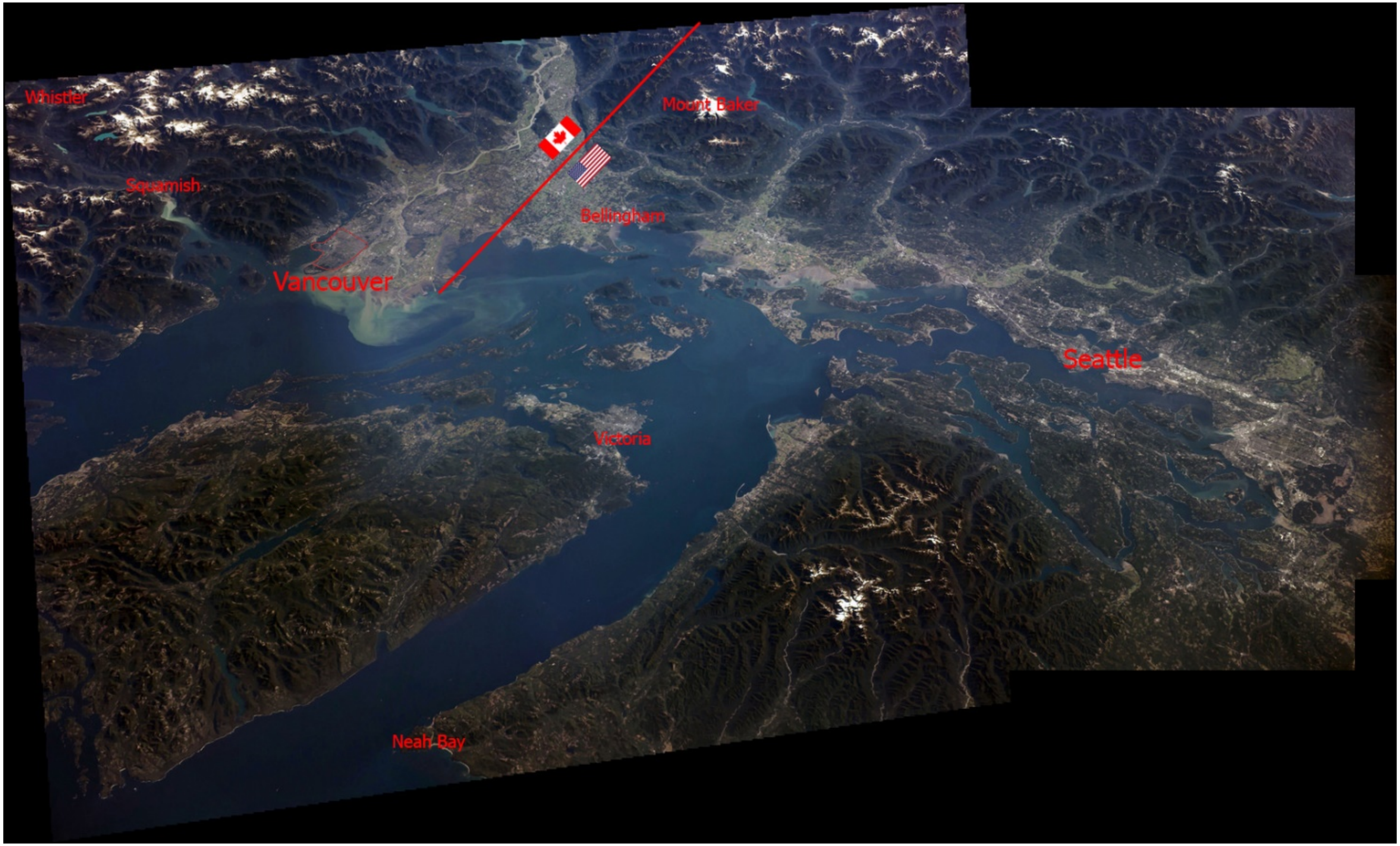
- THE EARTHQUAKE and TSUNAMI
- CASCADIA RISING DESIGN & SCOPE
- AMATEUR RADIO IN THE RESPONSE PHASE
- WILL WE BE READY?
- DISCUSSION and Q&A

CASCADIA RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

CONSEQUENCES OF THE EARTHQUAKE and TSUNAMI

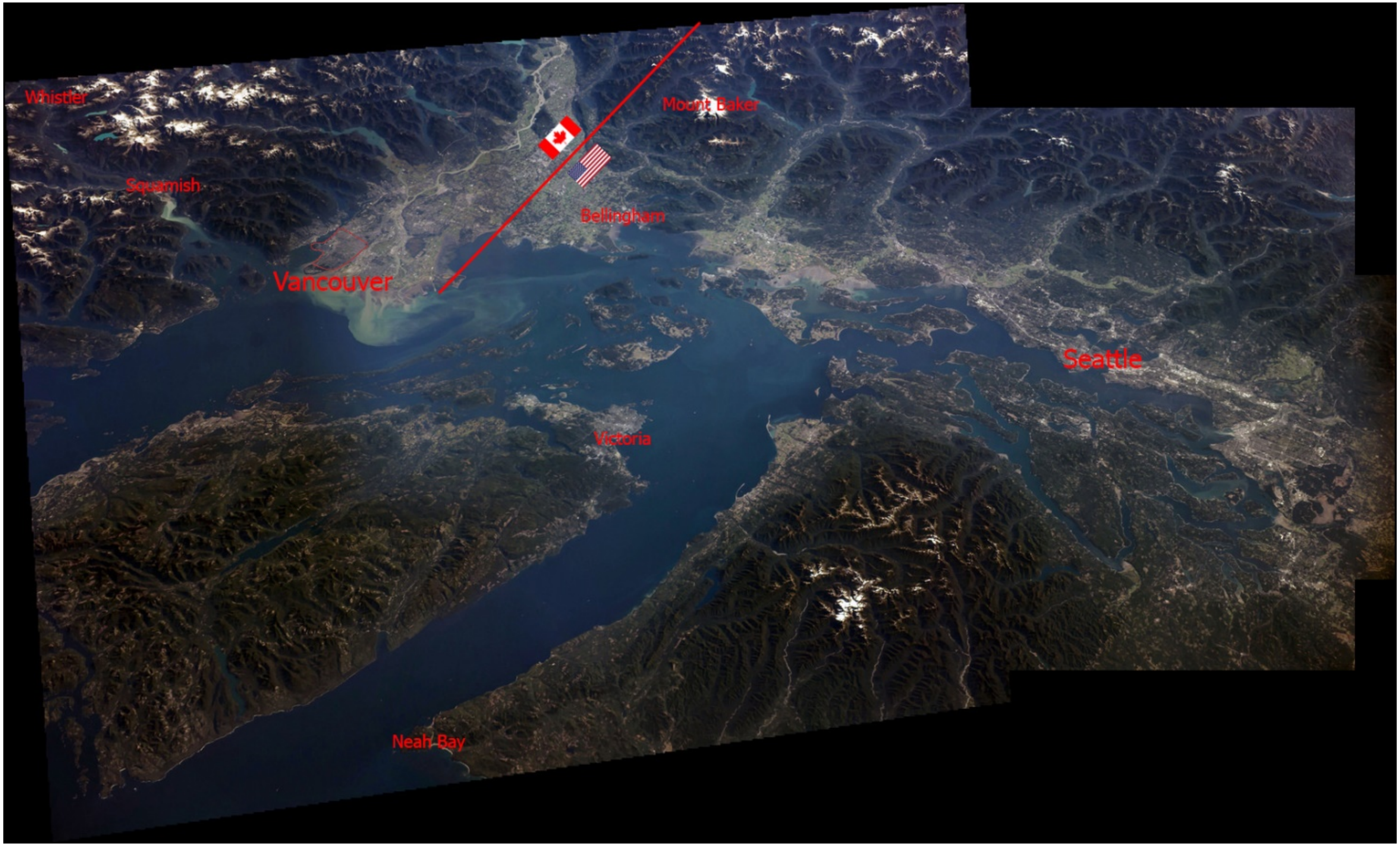
The Cascadia Megacity



The Cascadia Megacity

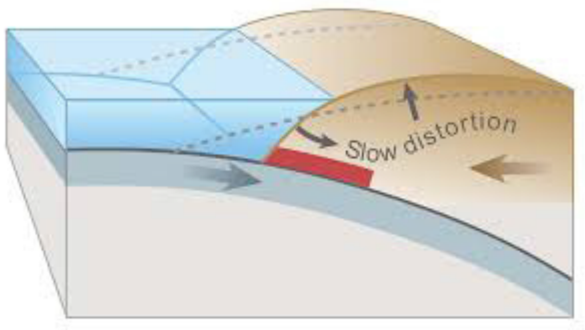
- 8 Million people live and work on the projected CSZ earthquake damage zone – 6 million of these in urban areas.
- The Seattle and Portland Metro areas along represent the sixth largest metro area by GDP at nearly $450 billion annually.
- Vancouver, B.C. is the third largest city in Canada by nominal GDP at just over $100 billion annually.
- The Pacific Northwest is one of the preeminent tourist destinations for both domestic and international travelers.
- The Blaine, WA border crossing is the 8th busiest in the US with just shy of 7 million personal vehicles annually.

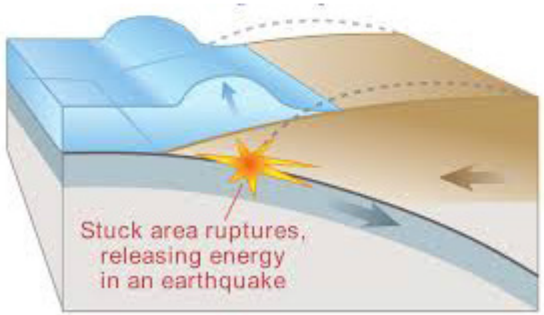
The Cascadia Megacity



THE EARTHQUAKE/TSUNAMI HITS WASHINGTON STATE

Anatomy of a Cascadia Zone Earthquake





- The subducting tectonic plate (solid grey) currently stuck against the over-riding North American Plate (brown) causing the edge of the North American plate to warp and elevate the land.
- When the pressure finally causes the fault to rupture, the North American Plate will flex and drop, **producing a major earthquake and tsunami.**
- The dotted lines in the left image mark the level of the land not warped by accumulated strain and on the right mark the elevation of the distorted plate just before fault rupture.

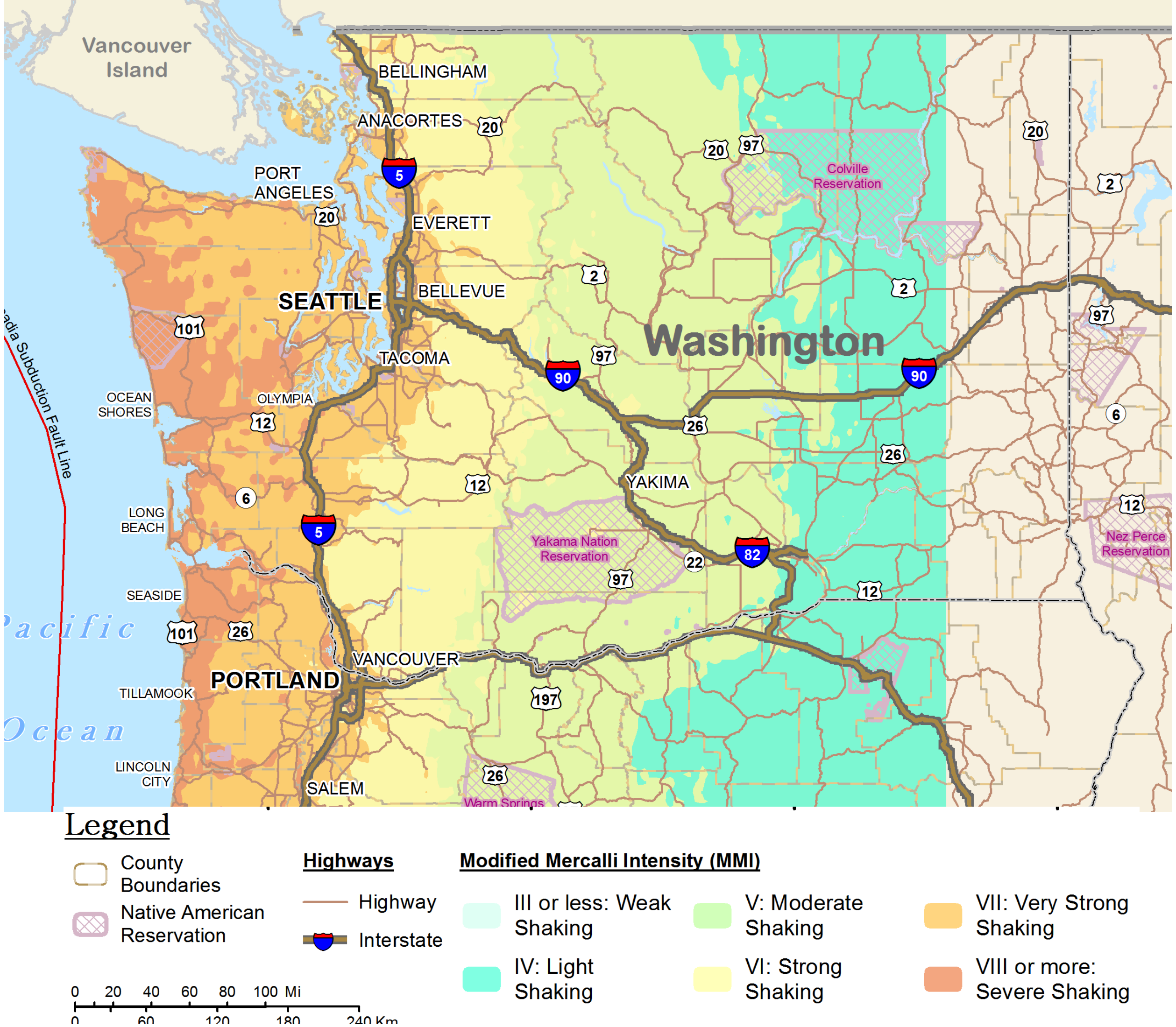
The Modified Mercalli Intensity Scale

- *Weak - Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.*
- *Light - Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.*
- *Moderate - Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.*
- *Strong - Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.*

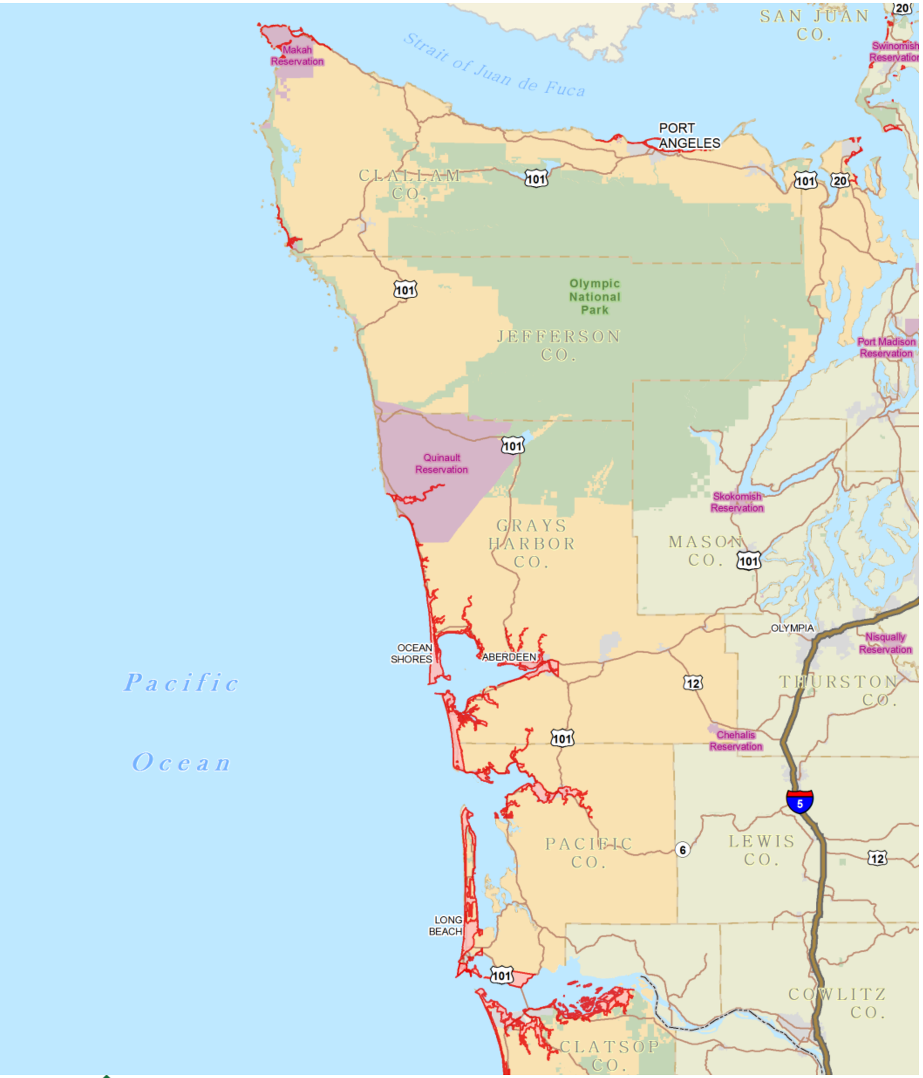
The Modified Mercalli Intensity Scale

- *Very Strong - Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.*
- *Severe - Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.*
- *Violent - Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.*
- *Extreme - Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.*

SHAKING INTENSITY



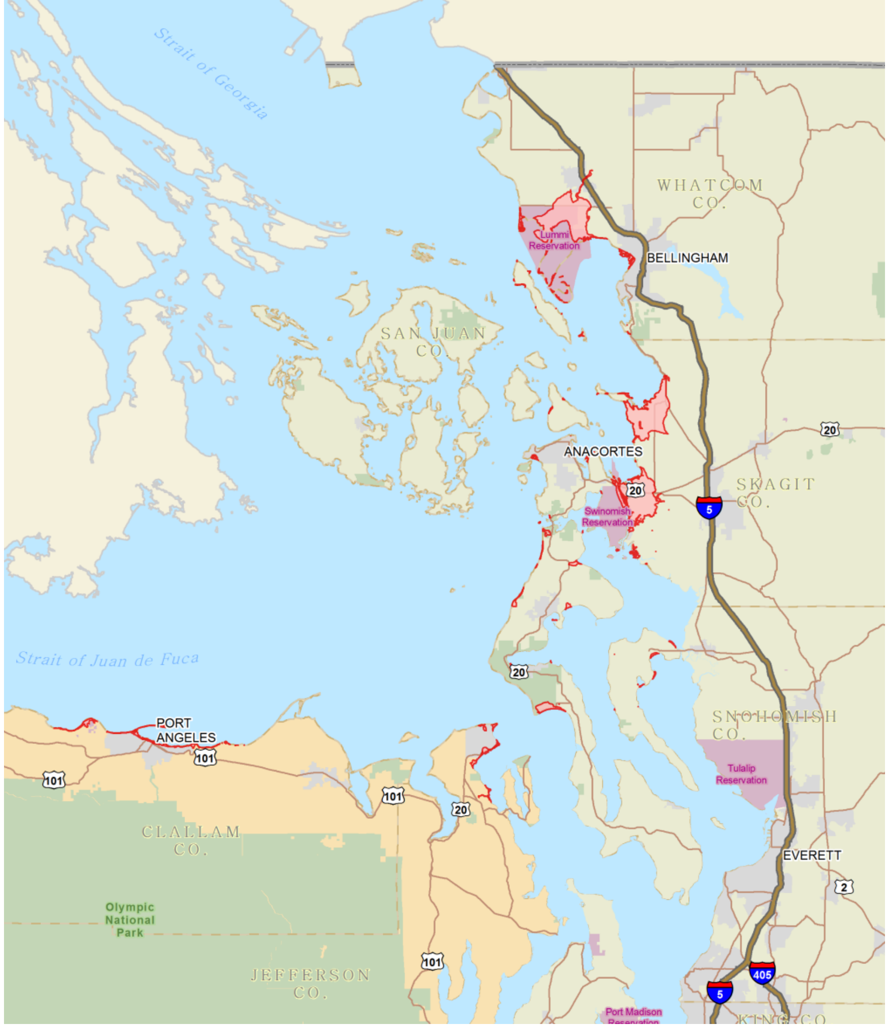
Tsunami Inundation Zone – Pacific Coast WA



The cities of Aberdeen, Ocean Shores, Westport, Long Beach, Hoquiam, Cosmopolis, and Shoalwater Bay Indian Reservation will be devastated.

Over 50,000 Washingtonians reside in the tsunami inundation zone. After the initial shaking survivors will have 30-60 minutes before the first wave. During certain times as many as 25,000 workers and 17,000 tourists may also be in the inundation zone.

Tsunami Inundation – Coastal Puget Sound.



The tsunami inundation zone in Washington also includes the coasts of the Strait of Juan de Fuca and on the coasts of counties in upper Puget Sound.

Estimated Injuries and Deaths

	Injuries			Fatalities		
Area	**Earthquake**	**Tsunami**	**Total**	**Earthquake**	**Tsunami**	**Total**
Coastal	2000	3000	5000	100	9000	9100
I-5 Corridor	7000	400	7400	300	1300	1600
WA total	9000	3400	**12000**	400	10300	**10700**

Estimated Highway Damages - Washington

Damage State

AREA	None	Low	Medium	High
Coastal	14%	6%	5%	75%
I-5 Corridor	65%	5%	8%	22%
Highway Displacement	none	1-3”	3-12”	>12”

Estimated Bridge Damages - Washington

Damage State

AREA	None	low	Medium	High
Coastal	16%	12%	23%	50%
I-5 Corridor	53%	7%	27%	13%
Description	None	Slight*	Moderate**	Collapse

*= usable before repairs

**=unusable before repairs

Airport Facilities Damage

Damage State

AREA	None	Low	Medium	High
Coastal	0%	0%	45%	55%
I-5 Corridor	0%	30%	32%	8%

Low = minor structural damage to terminals

Medium = some partial collapse of terminals. Damage may obstruct air control.

High = Structure collapsed. Many facilities unusable by fixed wing aircraft.

Note: Runways at Sea Tac may suffer little damage but roads and bridges adjacent to Sea Tac may impede ground access.

Rail Damage

Damage State

AREA	None	Low	Medium	High
Coastal	25%	2%	2%	71%
I-5 Corridor	49%	6%	42%	3%

Low = Localized bending of tracks. Unusable before repair.

Medium = Considerable bending. Unusable before repair.

High = Major bending due to railway bed shifting and settling over extended lengths.

Railway Bridges

Damage state

AREA	None	Low	Medium	High
Coastal	0%	0%	0%	0%
I-5 Corridor	66%	0%	6%	28%

Low = slight damage but usable

Medium = Moderate damage requiring repair before use.

High = Collapse. Unusable.

Note: Bridge damages may halt all rail traffic in the I-5 corridor. Eastbound lines may be used to reroute rail traffic if unaffected by landslides.

Washington Seaports

Damage State

AREA	None	Low	Medium	High
Coastal	0%	0%	22%	78%
I-5 Corridor	0%	18%	73%	9%

Low = Minor repairs may be required.

Medium = Broken piers, considerable crane and warehouse derailment, and some toppled cranes.

High = Extensive damage to the port. Unusable.

Note: Coastal ferries may suffer high damage from earthquake and tsunami. Puget Sound ferries may suffer damage from liquefaction and need extensive repairs before use. Puget Sound island populations may be isolated because of the combination of damage to ferry facilities, roads, and bridges. San Juan ferries may only suffer minor damage.

Damage to Washington Electrical Facilities

Damage State

AREA	None	Low	Medium	High
Coastal	0%	0%	60%	40%
I-5	0%	22%	66%	12%

Low = Light damage to generation plants and substation equipment. Unusable until repair which may take a few hours to a few days.

Medium = Considerable damage. Restoring power to meet 90% of demand to take weeks to months.

High = Extensive damage. Restoring power to meet 90% of demand to take months to a year.

Damage to Natural Gas Systems

Damage State

AREA	None	Low	Medium	High
Coastal	0%	0%	0%	100%
I-5 Corridor	1%	4%	75%	20%

Low = Slight damage to compressor building

Medium = Extensive damage. Damage may be irreparable.

High = Compressor building collapse.

Damage to Washington Refined Fuels Industry

Damage State

AREA	None	Low	Medium	High
Coastal	N/A	N/A	N/A	N/A
I-5 Corridor	0%	0%	44%	56%

Low = Loss of power resulting in malfunction for less that 3 days.

Medium = Malfunction of refinery for a week or so. Considerable damage to equipment.

High = Extensive damage to refinery, tank failure, stacks, pipes, buildings and pumps rendering them inoperable until repaired.

Damage to Communication Systems - Washington

Damage State

AREA	None	Low	Medium	High
Coastal	0%	0%	33%	67%
I-5 Corridor	5%	19%	55%	21%

Low = Slight damage to communication facility. Loss of center's ability to provide services for a few days due to loss of electrical and backup power. Facility could be functional with minor repairs.

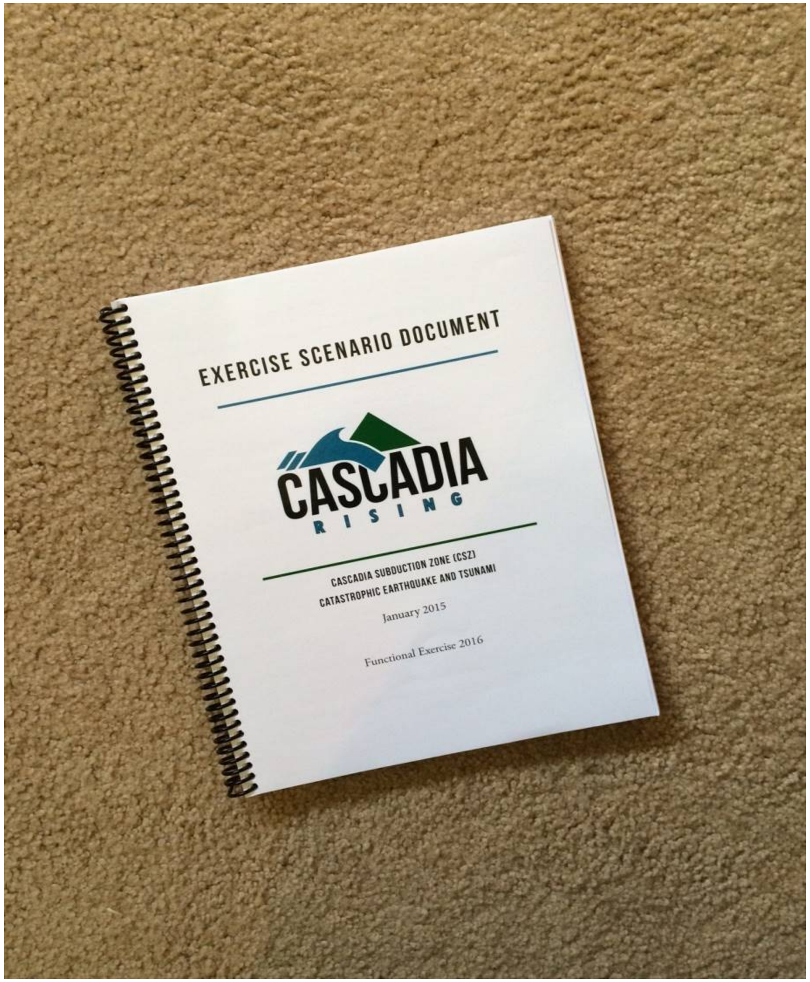
Medium = Moderate to severe damage to communication facility. Digital switching systems dislodged. Loss of service for a few days pending power restoration and equipment repair.

High = Severe to complete damage to the communication facility. Most switching boards dislodged. Damage to digital switching equipment may beyond repair.

Note: Communications in Medium and High impact areas may be limited to radio and satellite phones.

Cascadia Rising Exercise Scenario Document

https://huxley.wwu.edu/sites/huxley.wwu.edu/files/Cascadia_Rising_high_0.pdf



EXERCISE SCENARIO DOCUMENT

CASCADIA RISING

CASCADIA SUBDUCTION ZONE (CSZ)
CATASTROPHIC EARTHQUAKE AND TSUNAMI

January 2015

Functional Exercise 2016

CASCADIA
RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

CASCADIA RISING EXERCISE DESIGN, SCOPE, & OBJECTIVES

JTF

Analysis

Common Operating Picture

Essential Elements of Information

Elected Officials

Dispatch

Information Sharing

Sharepoint

Intra-state

Mission Assignments

Situational Awareness

Tools and software

Mutual Aid

State/EMAC

Command & Control

GIS

Military

NORTHCOM

EOCs

Tracking

FEMA/Feds

TRANSCOM

Teleconference calls

Damage Assessments

WebEOC

PNEMA

Remote sensing

Ordering

Deploy

IMAT

Nat'l Guard

RRCC

DOCs

Incident Command

Response Teams

Field Requests

Internet down

Priorities

HRF

NRCC

Cities

Forms/process

Resources Mgt

SITREPs

SOPs

Policy-makers

Colleges

Gov't capacity

Fire-fighting

ICS

IMTs

Future Planning

Logistics

ISB

Strategic Airlift

International

COOP

Tribes

County Gov't

ESFs

IAP

Alert and Warning

Commodities

Food Wholesalers

Med Surge

Non-English Speakers

Fear

Responder Support Camps

Staging Areas

Helicopters

Alternative Care Facilities

Hospitals

Triage

Medical

MRCs

Rumors

Employ

Public Messaging

Trucks

Life-saving

Public Health

Patient Transport

Press Briefings

Joint Info System

Disaster Supply-Chain

MHE

Sea-Lanes

Mass-Care

Assisted Living Centers

FCCs

Private Sector

Radio

PSAPs

Texting

Social Media

Helibases

PODs

Food

Water

Pets

Evacuation

Detour routes

HAM

Mobilize help

Joint Logistics over the shore

No Electricity

Search and Rescue

Self Evac

Telecommunications outages

Utility Repair crews

NGOs

People / Survivors

Roads closed

VHF

UHF

Law-Enforcement/ security

No Natural Gas

VOAD

Heating

Emergency Shelters

Bridges down

Infrastructure Damages

No potable water

Volunteers

Special Needs

Infants

Schools

Emergency Power Generators

Aftershocks

Spontaneous Volunteers

'Island' populations

Red Cross

Cots & Blankets

Clear Debris

Cascading Failures

Gasoline shortages

Sea Ports

Reception

Hazmat

Public Works

Access

Oil Spills

Bldg. Inspection

Family Reunification

Tourists

Stranded motorists

National Sheltering System

Water Treatment off-line

No Cash

Pipelines

Airports

Foreign nationals

Banks closed

The Earthquake and Tsunami Exercise

- Based on a 9.0 magnitude earthquake along the length of the Cascadia Subduction Zone fault.
- The epicenter is 95 miles west of Eugene, Oregon which triggers a tsunami which effects the entire West Coast but also the entire Pacific Basin.
- Loss estimation does not provide definitive results but are couched in probabilities of infrastructure experiencing a set of specified damage states. The Cascadia Rising exercise relies upon the 90% percentile damage – the damage state with only a 10% estimated chance of being exceeded. Percentage of damage for each damage state are as follows: Low <5% damaged; Medium 5-50% damaged; High 51-100% damaged.

Cascadia Rising 2016 Exercise

Seminar

CascadiaSubduction Zone (CSZ) Catastrophic Earthquake and Tsunami Functional Exercise 2016

Whole Community Ramp-up Events

- **Seminars**
  - ✓ Exercise Design Seminars - October 14 and 15, 2014
  - ✓ Exercise Scenario Webinars - January 15 & 20, 2015
  - ✓ WA State-Fed CSZ Plans Orientation Seminar - January 27, 2015
- **Additional Workshops/Seminars**
  - Concept is to conduct at least one Workshop per Core Capability overarching objective: Operational Communications, Public Health and Medical Services, Mass-Care Services, Situational Assessment, Critical Transportation, and Operational Coordination.

- The *Cascadia Rising* 2016 Exercise will test all 14 response core capabilities as listed in the National Preparedness Goal. While EOCs at all levels will be exercising tasks under each of the 14 core capabilities, participants have selected 6 core capabilities as the Overarching Objectives for the exercise.

Cascadia Subduction Zone (CSZ)
Joint Exercise Objectives

Each of the 6 Overarching Objectives will be further broken-down into Joint Exercise Objectives. These Joint Exercise Objectives are critical in that they will serve as the foundation of the exercise.

- Serve as the focus area topics for the various exercise Seminar and Workshop ramp-up events. At these ramp-up events, participants will seek out 'good practices' applicable to successful EOC operations at all levels identify alternatives appropriate to the exercise scenario and review processes supporting interoperability between EOCs. Any of these 'practices' may then be tested during the exercise;
- Serve as focus areas for exercise 'injects' within the Master Scenario Events List to stimulate players actions at EOCs at all levels; and,
- Serve as the exercise evaluation standards upon which all EOCs will be evaluated and upon which the exercise After Action Report will be predicated.

Exercise Joint Objectives

Developed with input and agreement from the Whole Community

- **Operational Communications**
- **Public Health and Medical Services**
- **Mass-Care Services**
- **Situational Assessment**
- **Critical Transportation**
- **Operational Coordination**

JOINT OBJECTIVES

Drives

Drives

Drives

Ramp-Up Events

Pre-Exercise Seminars and Workshops

MSEL/Injects

Simulated field problems for players to resolve during the Exercise

Statewide AAR

Lessons learned for future improvements

Cascadia Rising Exercise 2016 - IPM

Steering Committee Co-Leads

Exercise Design Sub-working Groups

- Design & Control
- Scenario and Ground Truth
- Evaluation
- External Affairs
- Training

Community and Agency Lead Exercise Planners – Trusted Agents

- Cities
- Counties
- State Agencies
- Federal Agencies
- Tribal Nations
- Private Sector
- NGOs

Core Capability Subcommittees

- Operational Communications
- Public Health and Medical Services
- Mass-Care Services
- Situational Assessment
- Critical Transportation
- Operational Coordination

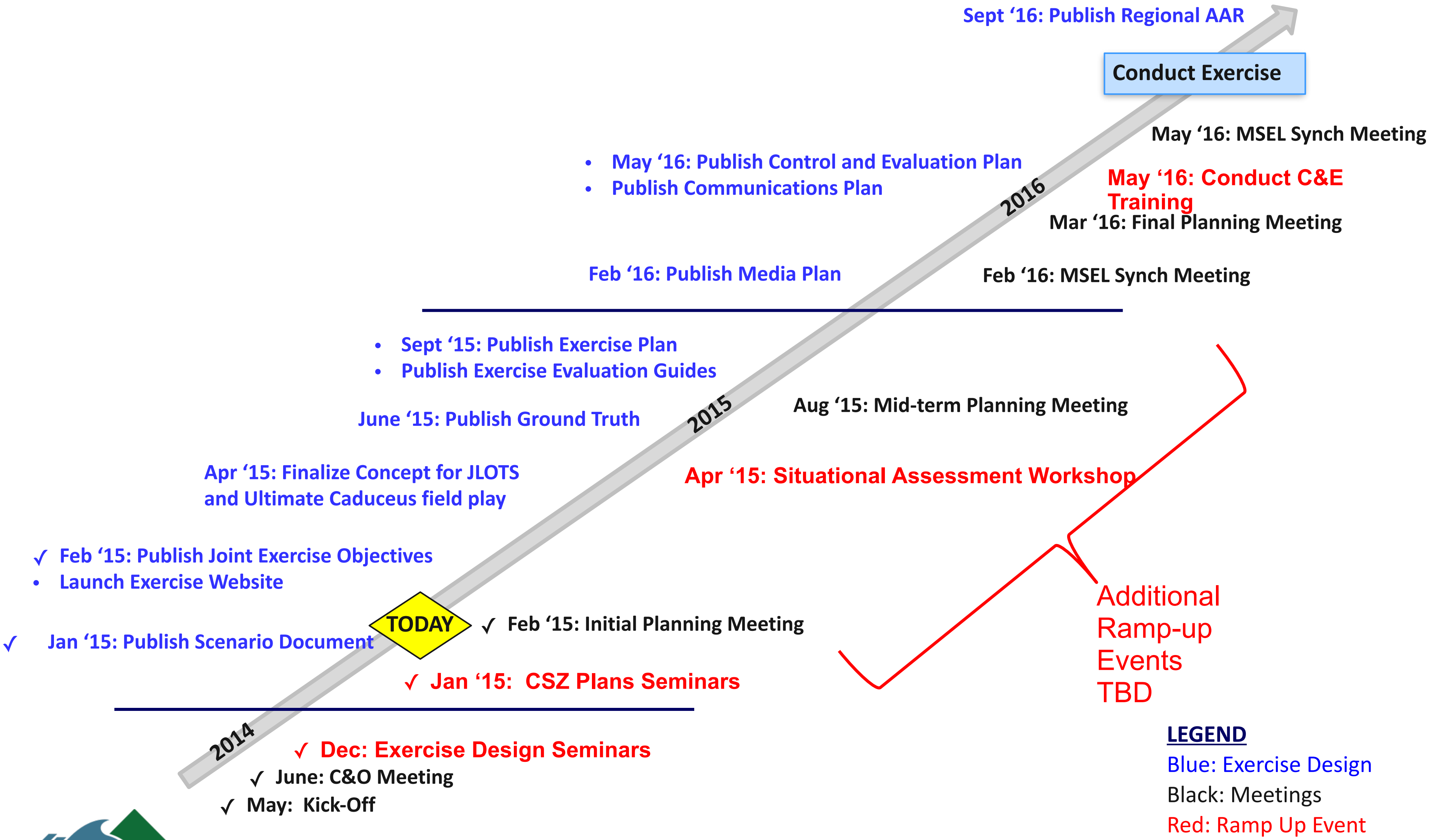
Core Capability Subcommittee
Operational Communications

- CO-Leads

Monte Simpson W7MLS	ARRL WWA SM, WA STATE RO
Mike Chaplin NC7Q	ARRL ASEC, ASRO

- 4 subcommittees
  - Amateur Radio
  - Heavy Tactical Communications (Private sector mobile units (like a COLT), FEMA, MERS, DoD, and County/City Mobile Communications platforms
  - Communications Infrastructure Restoration
  - Alert and Warning

Milestones



Sept '16: Publish Regional AAR

Conduct Exercise

May '16: MSEL Synch Meeting

- May '16: Publish Control and Evaluation Plan
- Publish Communications Plan

May '16: Conduct C&E Training

Mar '16: Final Planning Meeting

Feb '16: Publish Media Plan

Feb '16: MSEL Synch Meeting

- Sept '15: Publish Exercise Plan
- Publish Exercise Evaluation Guides

Aug '15: Mid-term Planning Meeting

June '15: Publish Ground Truth

Apr '15: Finalize Concept for JLOTS and Ultimate Caduceus field play

Apr '15: Situational Assessment Workshop

Additional Ramp-up Events TBD

✓ Feb '15: Publish Joint Exercise Objectives
- Launch Exercise Website

✓ Feb '15: Initial Planning Meeting

✓ Jan '15: Publish Scenario Document

✓ Jan '15: CSZ Plans Seminars

✓ Dec: Exercise Design Seminars

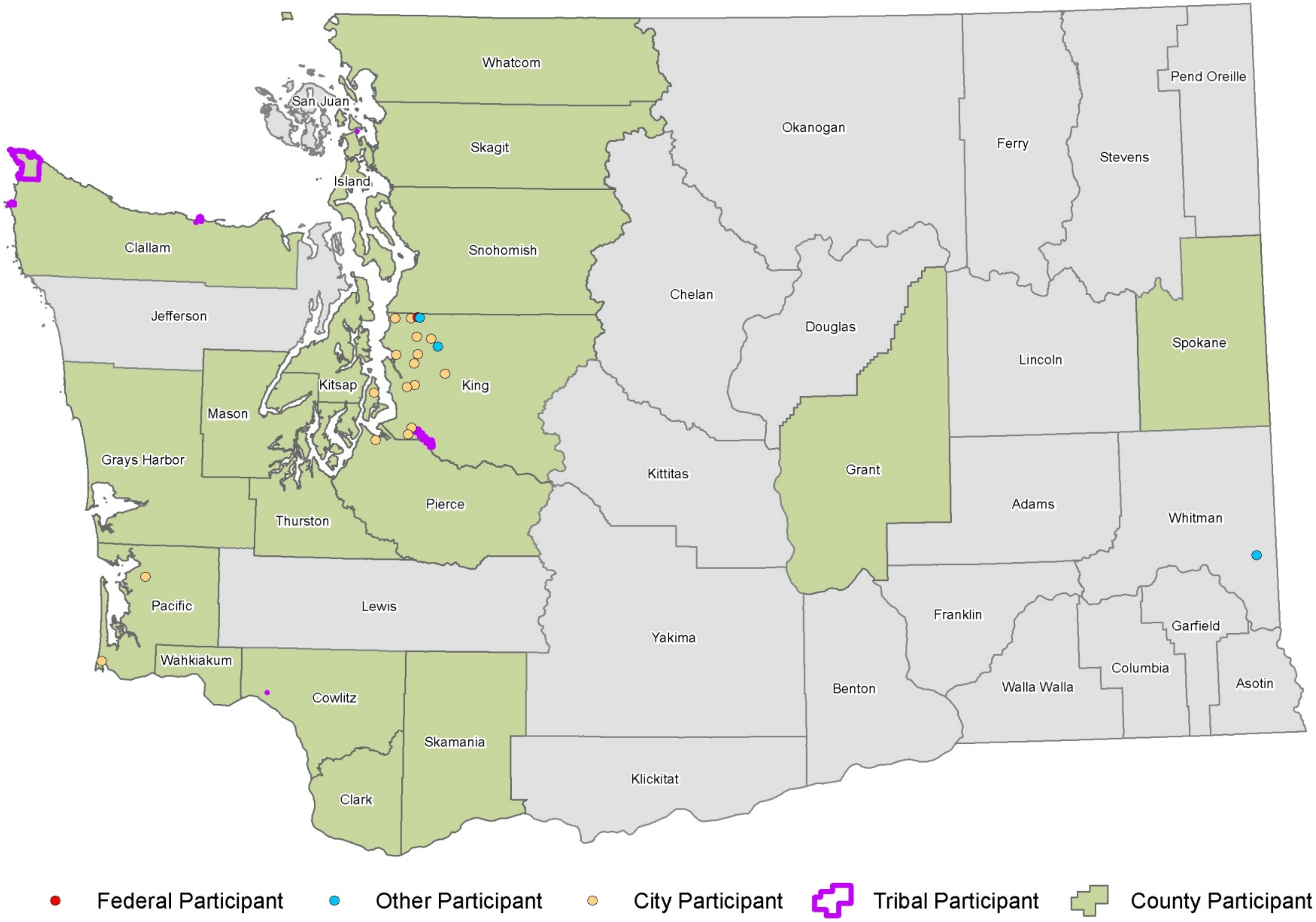
✓ June: C&O Meeting

✓ May: Kick-Off

LEGEND

Blue: Exercise Design
Black: Meetings
Red: Ramp Up Event

Participants



CASCADIA RISING

Joint Exercise Objectives

- **Operational Communications**
- Public Health and Medical Services
- Mass-Care Services
- Situational Assessment
- Critical Transportation
- Operational Coordination

Operational Communications Joint Objectives

- Demonstrate the ability to relay critical messages to the public in a degraded communications environment utilizing means other than television and the internet.

- Demonstrate the ability to communicate disaster related information with the public utilizing (mock) social media platforms to include monitoring social media for trends and developing communication strategies and operational remedies to address those trends.

- Demonstrate the ability of the public affairs community across all EOCs to collaborate on the development of accurate, timely, and consistent joint public messaging with an emphasis on access and functional needs populations to aid disaster survivors and engender trust in government.

Operational Communications Overarching Objective

Demonstrate the ability of Emergency Operations Centers (EOCs) to establish and sustain voice and data communications with other EOCs and with the general public to include basic restoration of communications infrastructure within the impacted area to support response operations and coordinated public messaging.

Operational Communications
Joint Objectives

- Demonstrate the ability of EOCs at all levels to operate in a degraded communications environment by utilizing tactical voice and data communications to include HF, VHF, and UHF radio systems/networks, amateur radio, WPS, GETS and satellite equipment to communicate with other EOCs, simulated field responders, private sector, and media outlets to ensure interoperability and manage the incident.
- Demonstrate the ability to coordinate post-disaster assessments of communications infrastructure in order to develop a common operational picture of communication system damages and coordinate with infrastructure owners to prioritize basic repairs to the communications infrastructure to support life-saving/ sustaining response operations.

Changing Strategies for Catastrophic Events
Regional Coordination Centers (RCC)

Regional Coordination Centers (RCC) have been implemented for use during catastrophic disasters where Camp Murray may be operating under limited conditions. The RCCs are as follows with the state homeland security regions they will serve.

- Spokane – Region 1
- Grant – Region 2
- Yakima – Region 3
- Benton – Region 4
- Camp Murray – Regions 5 and 6

RCC Mission: Establish Communications

- CSZ assumption: Most methods of communication (i.e internet, landline, cellular phone, VHF/800/700 Mhz radio) will be unavailable or severely degraded throughout Western WA.
- Expectation: Amateur Radio will likely be primary method of long distance communication for the first week.
- RCCs will also need to establish communication with Federal and DOD logistics bases. May have access to National Guard “Joint Incident Site Communications Capability” (JISCC) for this.
- EMD is developing a digital SITREP form which will allow Amateur Radio High Frequency (HF) transmission of essential info, but use minimal bandwidth. (It will also standardize message traffic across the Amateur Radio community.)

What are Regional Coordination Centers (RCC)?

- Eastern Washington county EOCs able to serve as *short term State EOC surrogates* if the SEOC is out of action. (CSZ quake/tsunami)
- RCCs are aligned with the six west side HLS Regions.
- RCCs automatically activate when CSZ quake occurs; deactivate when expanded SEOC/JFO becomes operational.

Why will we need RCCs?

- CSZ quake damage projections predict that the SEOC (Building 20) will sustain loss of most communications, plumbing; Widespread damage to transportation infrastructure will keep most staff from getting to Camp Murray.
- The sheer volume of SITREPS and resource requests from affected jurisdictions would overwhelm even a fully-operational SEOC.

The 3 Primary RCC Missions:

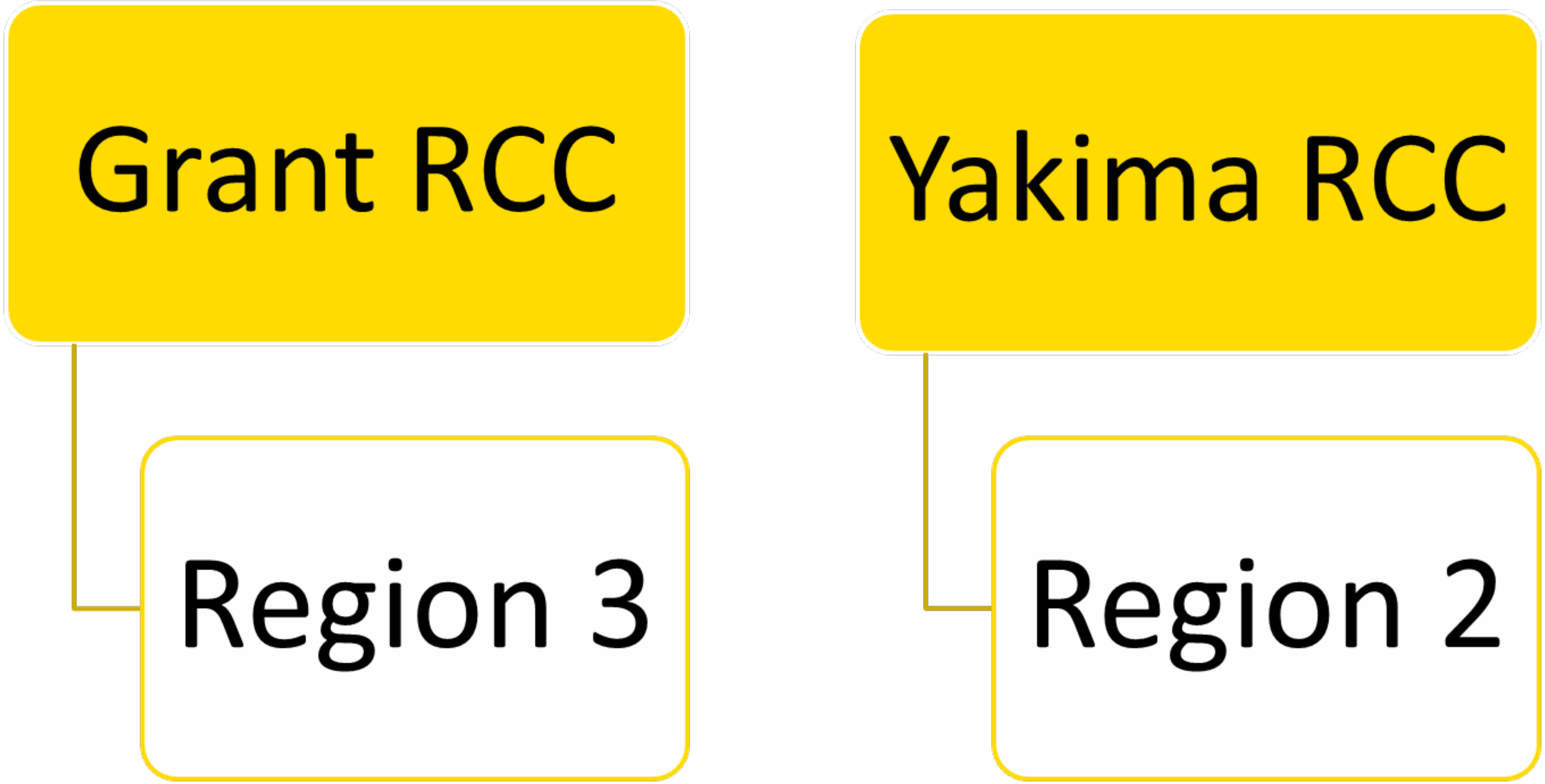
- Establish communications with local jurisdictions affected by the disaster, by any means available.*
- Contribute to establishing Situational Awareness, Common Operating Picture.
- Coordinate initial logistics support.
- **mission fully detailed in a following slide.*

RCC Logistics

- Communications between all RCCs and Logistics Support Bases will likely use JISCC; comms between Eastern WA RCCs and locals will likely be by Amateur Radio.

- Camp Murray RCC will likely be able to use a combination of Amateur Radio, couriers, and aircraft repeaters to communicate with Pierce and King County.

RCC to HLS Region Pairings



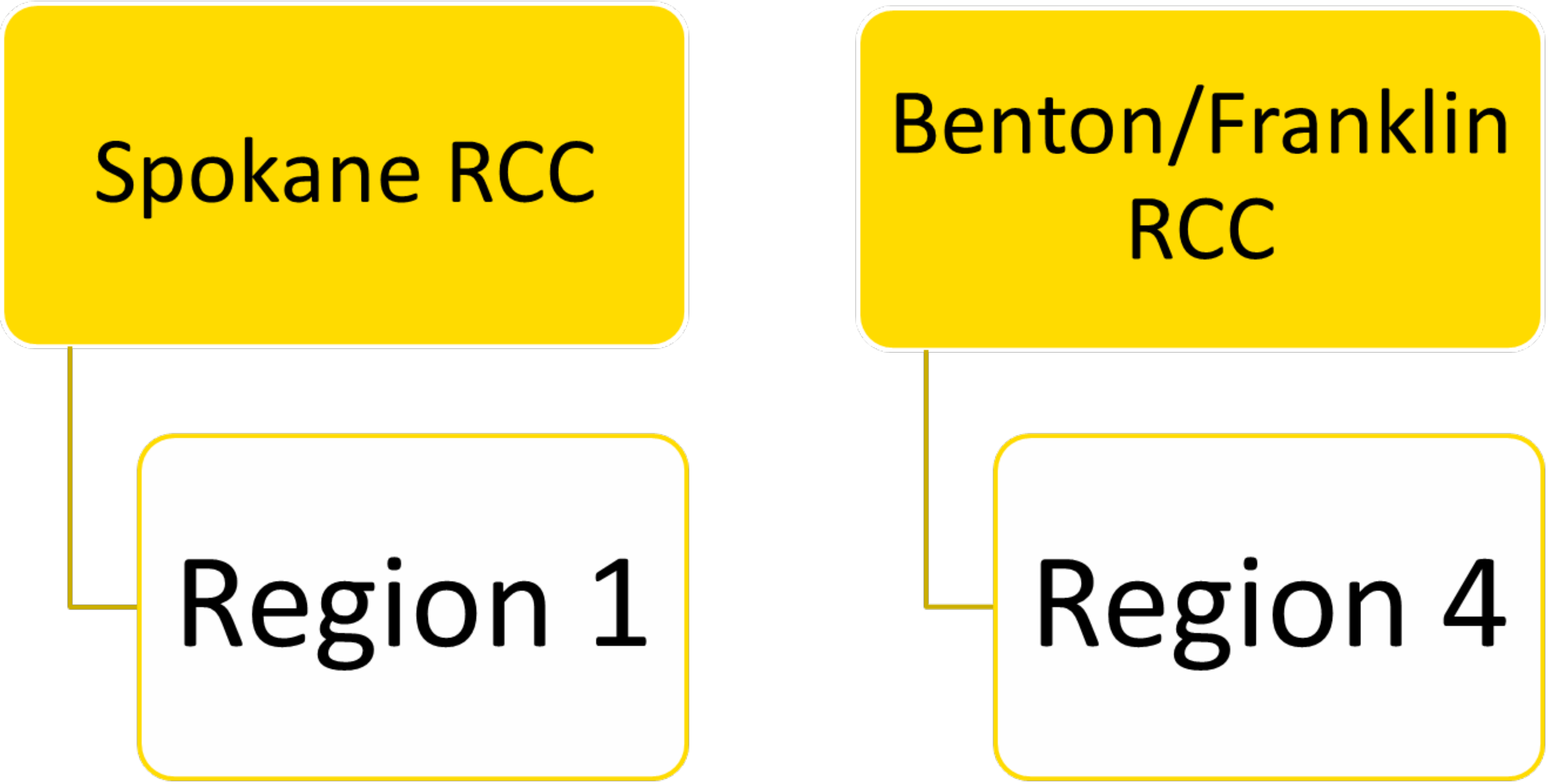
Grant RCC

Region 3

Yakima RCC

Region 2

RCC to HLS Region Pairings



Spokane RCC

Region 1

Benton/Franklin RCC

Region 4

RCC to HLS Region Pairings

- Camp Murray RCC
  - Region 5
  - Region 6

CASCADIA RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

AMATEUR RADIO IN THE RESPONSE/RECOVERY PHASE

The Importance of Amateur Radio

We have asked for it and here it is !!!

Amateur Radio will be the primary if not the only method of communication for the first 2-7 days following a 9.0 Catastrophic Earthquake and Tsunami!!

Changing Communication Strategies
Re-examining our Use Of HF

- At present we use the designated frequencies of 3.985 and 7.245 Mhz for communications to/from county EOCs and the state EOC.
- We need to determine if we can add 80/40m frequencies to accommodate the RCC concept.
- The ability to send and receive HF data becomes extremely important.
  - Winlink will become primary.
  - Pactor
  - Winmor – free – requires sound “card” – for example “SignaLink”

Communication strategies

ARES/RACES/ACS leaders need to consider the use of non-traditional amateur radio volunteers (especially HF operators) in a catastrophic disaster

- Dxers
- Contestors
- Technical Specialists

VHF/UHF Communication Strategies
Repeaters

- There are 329 (at last count) coordinated amateur repeaters in Western Washington.
- About 150 of these are on emergency power.
- But many of these repeaters will not survive the earthquake
  - Some are on liquefiable land
  - Many will suffer power loss
  - Some may be otherwise damaged or destroyed
- Alternative U/V communication strategies
  - Simplex
  - Portable repeaters
  - Can you operate on 6M, 222Mhz, 900Mhz?

VHF/UHF Communication Strategies
Packet

UHF/VHF Packet will be essential

- Simplex Packet stations
  - From tactical field units to local EOC
  - From EOC to Winlink (if internet available)
  - Satellite based internet to Winlink
- Digital repeaters
  - Lyman Hill (bit-regeneration – are there others?)
  - Others
  - HamWan

ISNAP

PRO-FORMA MESSAGING

Incident Snapshot for Counties and Tribal Nations

1. Date/Time:

2. ISNAP Version:

3. Incident Type:

4. State Mission Number:

5. Affected Jurisdictions

6. Reporting Jurisdiction:

7. Point of Contact:

8. EOC Status:

9. Briefly describe the situation

Category	Impacts	Status	Comments
10. Casualties	Extensive Moderate Minimal	Green Yellow Red Black	
11. Communications	Landline Cellular Internet Television Radio Amateur Radio	Green Yellow Red Black	
12. Energy	Electricity Fuel Lines Natural Gas	Green Yellow Red Black	
13. Environment	Flood Dam Failure Hazardous Material	Green Yellow Red Black	
14. Government	Elected Officials unavailable	Green Yellow Red Black	
15. Medical	EMS Hospitals Fatality Management	Green Yellow Red Black	
16. Public Safety	911 Police Fire	Green Yellow Red Black	
17. Transportation	Highway Mass Transit Ferry Airport Seaport Arterials	Green Yellow Red Black	
18. Utilities	Water Sewer	Green Yellow Red Black	

Communication Strategies
Other Factors to be Considered

- Need to update Washington state RACES plan
- Does every ARES/RACES/ACS team have an updated written plan including your communication assets?
- We need more volunteers at all levels. Not only because of the RCC concept but because of the magnitude and length of amateur radio involvement. *Local plans should include home or off EOC site Amateur Radio stations.*
- Involvement and integration of NTS operators.
- Working with volunteers from the EWA section.

Training

- ARRL Simulated Emergency Test (SET) this fall will be a statewide practice for the Cascadia Rising Exercise and will involve both voice and data on both HF and VHF.
- Workshops and Training Events
  - COML training at Camp Murray in January 2016
  - Winmor/Winlink/RMS Express workshops this summer
  - Guest speakers at your ARES/RACES/ACS meetings on Cascadia Rising
  - Digital message handling basics
  - ICS 205 (Incident Communications Planning) training.

Amateur Radio and Broadcast Media

Amateur radio stations are prohibited from broadcasting information to relay information to commercial broadcast stations *unless the information is related to the immediate preservation of life or property.*

Methods to Get Information to Broadcast Stations as Suggested by the FCC

- “Provide the broadcast station with a volunteer amateur radio operator who is equipped to send and receive from the local EOC ESF2 amateur radio station”.
- “If that is not possible, provide the broadcast station a list of frequencies which it can monitor for this type of information (since they are not encrypted and anyone can easily monitor them using receivers that can receive FM and SSB transmissions from the amateur bands”.
- “If local fire, rescue, EMS, and law enforcement (Part 90) systems are still operational, then an unencrypted tactical can be used and monitored”.
- “Use licensed GMRS systems providing you have coverage”.

Source: *Curt R. Bartholomew (N3GQ)*

Senior Emergency & Continuity Manager

Public Safety and Homeland Security Bureau

Federal Communications Commission

ESF-2 & Social Media Awareness

Why social media?

- FEMA administrator Craig Fugate said, “We have to learn how to communicate with the public, the way they communicate.“

How does FEMA use social media?

FEMA uses:

- Twitter
- Facebook
- YouTube
- Instagram

Follow FEMA:

To:

- Inform the public
- To engage with the public
- To listen to the public

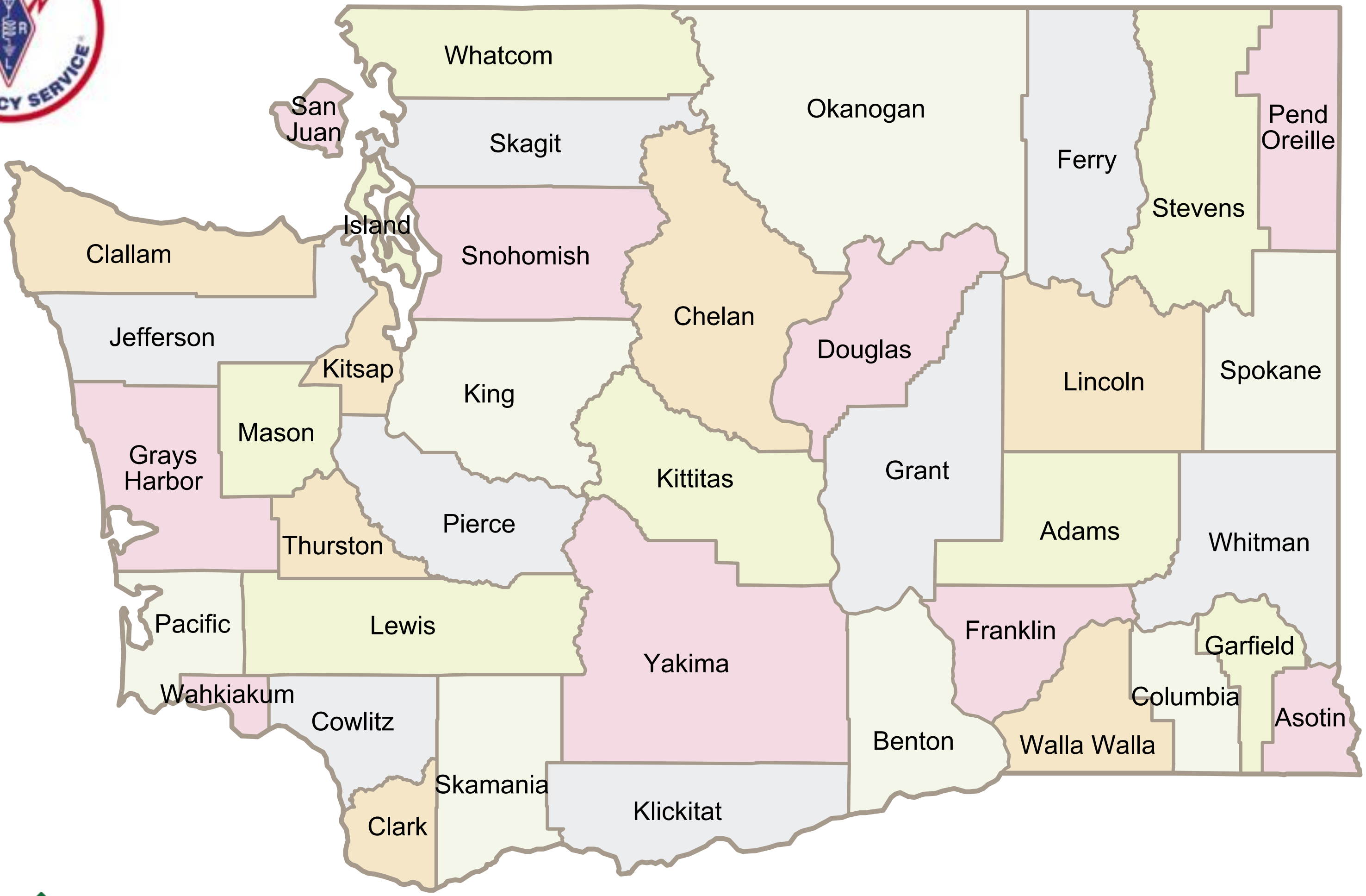
Monte Simpson

Operational Communications Cascadia Rising - Co-Lead

ARRL Western Washington Section Manager

Washington State RACES Officer

Washington State ARES / RACES



Transitioning to a local, County and State Team

Cascadia Rising 2016 Has identified major Tasking for the Amateur Radio Service. This requires a Paradigm Shift.

Washington State ARES/RACES Team 1

CASCADIA RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

WILL WE BE READY?

CASCADIA
RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

DISCUSSION and Q&A

CASCADIA
RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

THE END
THANKS FOR LISTENING
QUESTIONS?

CASCADIA
RISING

Cascadia Subduction Zone (CSZ)
Catastrophic Earthquake and Tsunami Functional Exercise 2016

THE RESPONSE